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[54] COMPOSITIONS AND METHOD FOR PRODUCING FUEL RESISTANT LIQUID POLYTHIOETHER POLYMERS WITH GOOD LOW TEMPERATURE FLEXIBILITY

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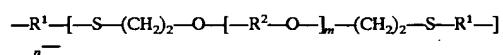
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[57] ABSTRACT

A polythioether includes a structure having the formula I



wherein

R^1 denotes a divalent C_{2-6} n-alkyl, C_{3-6} branched alkyl, C_{6-8} cycloalkyl or C_{6-10} alkylcycloalkyl group, $-\left[\left(\text{CH}_2\right)_p-\text{X}\right]_q-\left(\text{CH}_2\right)_r-$, or $-\left[\left(\text{CH}_2\right)_p-\text{X}\right]_q-\left(\text{CH}_2\right)_r-$ in which at least one $-\text{CH}_2-$ unit is substituted with a methyl group,

R^2 denotes methylene, a divalent C_{2-6} n-alkyl, C_{2-6} branched alkyl, C_{6-8} cycloalkyl or C_{6-10} alkylcycloalkyl group, $-\left[\left(\text{CH}_2\right)_p-\text{X}\right]_q-\left(\text{CH}_2\right)_r-$, or $-\left[\left(\text{CH}_2\right)_p-\text{X}\right]_q-\left(\text{CH}_2\right)_r-$ in which at least one $-\text{CH}_2-$ unit is substituted with a methyl group,

X denotes one selected from the group consisting of O , S and $-\text{NR}^6$,

R^6 denotes H or methyl,

m is a rational number from 0 to 10,

n is an integer from 1 to 60,

p is an integer from 2 to 6,

q is an integer from 0 to 5, and

r is an integer from 2 to 10.

The polythioether is a liquid at room temperature and pressure.

23 Claims, 2 Drawing Sheets

